

What is claimed is:

1. A scan driving method of a field emission display device in which a data pulse is applied to a data electrode and a scan pulse and a reset pulse are alternately applied to a scan electrode, including: a step in which when a reset pulse is applied to one of a plurality of scan electrodes, the reset pulse is also applied to all the remaining scan electrodes.

2. The method of claim 1, wherein the scan pulse applied to the scan electrode is synchronized with a data pulse applied to the data electrode.

3. The method of claim 1, wherein the scan pulse and the reset pulse are controlled by an external switching control signal and a timing control signal.

4. The method of claim 3, wherein the reset pulse is simultaneously applied to every scan electrode constituting the panel, after the scan pulse is applied.

5. The method of claim 4, wherein the reset pulse is applied to a blanking signal interval, not to an image signal interval.

6. The method of claim 1, wherein the reset pulse is applied between scan pulse and next scan pulse, and the reset pulse is simultaneously applied also to other remaining scan electrodes to which the scan pulse has not been applied.

7. The method of claim 1, wherein, a reset pulse having a positive voltage is applied when the scan pulse is completed, in order to sharply increase a tilt of a rising pulse of the scan pulse.

5 8. The method of claim 7, wherein the tilt of the rising pulse of the scan pulse is controlled by a resistor provided in a pulse generator.

9. The method of claim 1, wherein before the scan pulse is applied to the scan electrode, a plurality of positive reset pulses with a sawtooth waveform
10 are applied to the scan electrode.

10. The method of claim 9, wherein after the scan pulse is applied to one scan electrode, the positive reset pulse with the sawtooth waveform is applied to each of a plurality of scan electrodes.

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11. The method of claim 9, wherein the sawtooth wave reset pulse is applied between scan pulses applied to the i th (i is integer which is equal to or greater than '0') scan electrode and $(i+1)$ th scan electrode.

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12. The method of claim 11, wherein a phase of i th (i is integer which is equal to or greater than '0') sawtooth waveform reset pulse which has finished dropping and a phase of the $(i+1)$ th scan pulse which starts rising are the same.

13. The method of claim 1, wherein before the data pulse is applied to
25 the data electrode, a plurality of negative sawtooth waveform reset pulses are

applied to the data electrode.

14. The method of claim 13, wherein after the data pulse is supplied to the data electrode, the negative sawtooth waveform reset pulse is applied to
5 each data electrode.

15. The method of claim 13, wherein the sawtooth waveform reset pulse is applied between data pulses applied to the the i th (i is integer which is equal to or greater than '0') data electrode and $(i+1)$ th data electrode.
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16. The method of claim 15, wherein a phase of i th (i is integer which is equal to or greater than '0') sawtooth waveform reset pulse which has finished dropping and a phase of the $(i+1)$ th data pulse which starts rising are the same.

15 17. A scan driving method of a field emission display device in which a data pulse is applied to a data electrode and a scan pulse and a reset pulse are alternately applied to a scan electrode, comprising:

a step in which a scan pulse and a reset pulse are alternately applied to one scan line constituting a panel of the display device; and

20 a step in which when a reset pulse is applied to one scan line, the reset pulse is applied also to other remaining scan lines constituting the display panel.

18. A scan driving method of a field emission display device in which a data pulse is applied to a data electrode and a scan pulse and a reset pulse are
25 alternately applied to a scan electrode, comprising:

applying a scan pulse in synchronization with the data pulse to the scan electrode and applying a reset pulse having a certain voltage to the scan electrode at a point when the scan pulse rises.

5 19. A scan driving method of a field emission display device in which a data pulse is applied to a data electrode and a scan pulse and a reset pulse are alternately applied to a scan electrode, comprising:

supplying a data pulse to a plurality of data electrode; sequentially supplying a scan pulse in synchronization with the data pulse to a plurality of scan
10 electrodes; and

supplying a plurality of positive sawtooth waveform reset pulses to the plurality of scan electrodes or supplying a plurality of negative sawtooth waveform reset pulses to the plurality of data electrodes, in order to get rid of the electric charge charged in a cell to which the scan pulse and data pulse have been
15 supplied.

20 20. The method of claim 19, wherein after the scan pulse is supplied to one scan electrode, the positive sawtooth waveform reset pulse is supplied to each of a plurality of scan electrodes.

21. The method of claim 19, wherein after the data pulse is supplied to one data electrode, the negative sawtooth waveform reset pulse is supplied to each of the plurality of data electrodes.

25 22. In a field emission display device having a data driving unit for

applying a data pulse to a data electrode and a scan driving apparatus for alternately applying a scan pulse and a reset pulse to a scan electrode,

the scan driving apparatus comprising:

a pulse generator for outputting a prescribed level of voltage through

5 ON/OFF operation of a plurality of switching units; and

a scan driving IC for receiving the prescribed level of voltage from the pulse generator and selectively outputting it to an external display panel.

23. The scan driving apparatus of claim 22, wherein the pulse
10 generator includes two switching units, which respectively output two certain level of voltages by being turned on/off according to an external switching control signal.

24. The scan driving apparatus of claim 22, wherein the scan driving
IC receives two or more prescribed level of voltages from the pulse generator by
15 different input terminals.

25. The scan driving apparatus of claim 22, wherein the scan driving
IC includes a plurality of driving ICs, each of which has two switching units so that
when one switching unit is turned on, the other switching unit is turned off.
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26. The scan driving apparatus of claim 25, wherein the driving IC
receives two voltages with prescribed levels from the pulse generator and
selectively outputs one of them to an external display panel.

25 27. The scan driving apparatus of claim 22 further comprising:

a timing controller for outputting a timing control signal according to an external control signal;

a buffer for receiving the timing control signal from the timing controller, temporarily storing it, and amplifying and outputting the stored signal;

5 a photocoupler electrically divided into a primary side and a secondary side, receiving the timing control signal from the buffer, and transferring the timing control signal to the secondary side; and

a buffer for receiving the timing control signal from the photocoupler, temporarily storing it, and amplifying and outputting the timing control signal.

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28. The scan driving apparatus of claim 27, wherein the scan driving IC receives the two prescribed level of voltages from the pulse generator and selectively outputs one of them to the external display panel on the basis of the timing control signal received from the timing controller.

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29. The scan driving apparatus of claim 22, wherein the pulse generator comprises:

a monostable multivibrator for outputting a certain frequency of pulse according to an external switching control signal;

20 a plurality of switch driving units for controlling the plurality of switching units according to the outputted pulse at a point when the scan pulse rises; and

a resistor for controlling a tilt of a positive voltage outputted by the switching unit.

25 30. The scan driving apparatus of claim 22, wherein before the scan

pulse is applied to the scan electrode, a plurality of positive sawtooth waveform reset pulses to the scan electrode.

31. The scan driving apparatus of claim 30, wherein before the data
5 pulse is applied to the data electrode, a plurality of negative sawtooth waveform reset pulses are applied to the data electrode.

32. In a field emission display device having a data driving unit for
applying a data pulse to a data electrode and a scan driving apparatus for
10 alternately applying a scan pulse and a reset pulse to a scan electrode,

the scan driving apparatus comprising:

a timing controller for receiving an external control signal and outputting a
timing control signal and a plurality of switching control signals;

a pulse generator having a plurality of switching units and outputting two
15 or more prescribed levels of voltages as the plurality of switching units are turned on/off by a plurality of switching control signals outputted from the timing controller; and

a scan driving IC having a plurality of driving ICs, receiving by different
input terminals two or more prescribed level of voltages outputted from the pulse
20 generator, and selectively outputting one of the two or more prescribed level of voltages to a panel according to the timing control signal outputted from the timing controller.

33. The scan driving apparatus of claim 32, wherein each driving IC
25 constituting the scan driving IC includes a plurality of switching units turned on/off

by a timing control signal outputted from the timing controller.

34. In a field emission display device having a data driving unit for applying a data pulse to a data electrode and a scan driving apparatus for alternately applying a scan pulse and a reset pulse to a scan electrode,

5 the scan driving apparatus comprising:

a timing controller for receiving an external control signal and outputting a timing control signal and a plurality of switching control signals;

a pulse generator for turning on/off a switching unit upon receiving the switching control signal and outputting a prescribed level of voltage; and

10 a scan driving IC for receiving the timing control signal from the timing controller and selectively outputting a prescribed level of voltage outputted from the pulse generator.

35. The scan driving apparatus of claim 34, wherein the pulse
15 generator comprises:

a monostable multivibrator for outputting a certain frequency of pulse according to the switching control signal;

a plurality of switch driving units for controlling the plurality of switching units; and

20 a resistor for controlling a tilt of a positive voltage outputted by the switching unit.

36. A field emission display device comprising:

a data driving unit for preventing a leakage current from flowing to a data
25 electrode by previously supplying a negative reset pulse to the data electrode

before supplying a data pulse thereto; and

a scan driving apparatus for previously supplying a reset pulse to a scan electrode before supplying a scan pulse thereto.